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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,545	07/09/2003	Bernd Heigl	DT-6563	2804

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EXAMINER

TIBBITS, PIA FLORENCE

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,545

Applicant(s)

HEIGL ET AL.

Examiner

Pia F. Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/13/2004
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is in answer to the amendment filed 12/13/2004. Claims 1, 2, 4-7 are pending, of which claims 1, 4, 5, 7 were amended and claim 3 was canceled.

Drawings

1. The drawings are finally objected to under 37 CFR 1.83(a) because they fail to show the conventional names, as described in the specification, e.g. charging station, charging housing, charger electronics, battery, air blower, etc. for the elements shown in the figure with non-conventional symbols. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the upper section must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a

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drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant's amended Abstract of the Disclosure should commence on a separate sheet. (See MPEP § 608.01(b)).
4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter: "upper section". See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required.

Claim Objections

5. Claim 5 is objected to because of the following informalities: "the air inlet points" lacks antecedence". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: the recitation "physical contact interface...for the battery" is not clear since 1) "contact" implies touching, 2) there would be no airflow if the battery, the vent or the charger were in "physical contact", and 3) contradicts the specification describing "FIG. 1 shows a charging station 1...that is physically and electrically connected to a rechargeable battery 5...by an electrical and physical contact

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interface 4". To continue prosecution it was assumed that the arrangement described in fig.1 stands. In other words the battery 5 interfaces a vent 7a, i.e., the opening to the charger housing.

the recitation "one air vent is associated with the physical contact interface of the battery" is not clear since 1) a vent is an opening and 2) there would be no air flow if the battery, and the vent were in "physical contact". The airflow cools the whole battery, not just an interface. To continue prosecution it was assumed that the arrangement described in fig.1 stands, and the vent is facing the battery.

Claim 2: the recitations " physical contact interface" and "spatially associated" contradict each other, i.e., in contact and in the same space. To continue prosecution it was assumed that the arrangement described in fig.1 stands, and the vent is facing the battery.

Claim 5: "a pressure chamber having low flow resistance being arranged between the air blower and the air inlet points" is not clear since a "pressure chamber" is an enclosure in which the pressure of the environment is controlled, i.e., the chamber would have to be sealed. To continue prosecution it was assumed that the arrangement described in fig.1 stands, i.e., there is a chamber between the battery and the charger housing causing air to be accumulated and increasing the blow rate of the air blower.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by **Sakaue et al.** [hereinafter Sakaue][6218807].

As to claim 1, Sakaue discloses in figures 1-15 a charging station 7 for a rechargeable battery 5 that can be physically and electrically connected to the battery 5 having charger electronics/printed circuit board 50 [see column 6, line 42] in a charger housing 7 [see fig.1], wherein an air blower 12 is arranged in the charger housing 7 for producing an air current [see column 5, lines 17-37] through two air vents

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[10,11], wherein one air vent 10 is interfacing with the battery 5, and wherein the charger electronics 50 is arranged to transfer heat in the air current [see column 6, lines 42-44], and the air blower 12 being arranged between the air vent 11 on a flow inlet side 22 and the charger electronics 50.

As to claim 7, Sakaue discloses a cooling process for a charging station 7 for a rechargeable battery 5 that is electrically and physically connected to the battery 5, wherein an air volume [no reference number; see fig.1] of an air current [see fig.1] is moved by an air blower 12 arranged in the charger housing 6 of the charging station 7, comprising, a first step, wherein the air volume at a cooling temperature CT/a temperature below the temperature at which the battery could fail [see column 5, lines 54-56] is moved into the battery 5 to transfer heat, and, in a second step, the air volume at an intermediate temperature $IT > CT$ /warmed air [column 6, lines 12-14] permeates the charger housing 6 containing the charger electronics/printed circuit board 50 [see column 6, line 42].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 2, 6 are rejected under 35 U.S.C. 102(b) as being unpatentable over **JP-08185898** [hereinafter JP].

JP discloses in the abstract and figures 1-6 a charging station 10 for a rechargeable battery 18 that can be physically and electrically connected to the battery 18 having charger 25 in a charger housing 20 [see fig.1], wherein an air blower 24 is arranged in the charger housing 20 for producing an air current [no reference number] through two air vents [11,22], wherein one air vent 11 is interfacing with the battery 18. JP does not disclose charger electronics, charger electronics arranged to transfer heat in

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the air current, and the air blower being arranged between the air vent 11 on a flow inlet side and the charger electronics.

With regard to the limitation of having charger electronics to monitor the charging of the battery: it is an inherent function of the charger controller to have charger electronics to continuously monitor the charging of the battery, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

With regard to the limitation of having charger electronics arranged to transfer heat in the air current: it is an inherent function of the electronics arranged to transfer heat in the air current, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

With regard to the particular location of the air blower, i.e., "being arranged between the air vent 11 on a flow inlet side and the charger electronics", absent any criticality, is only considered to be an obvious modification as it has been held by the courts that rearranging parts of an invention involves only routine skill in the art if the operation of the device would not thereby be modified, and since a worker in the art could rearrange the air blower to place closer to the source of heat, i.e., the charging batteries.

In re Japikse, 86 USPQ 70.

As to claim 2, JP clearly describes battery 18 interfacing air vent 11.

As to claim 6, the air vent on the flow inlet side being arranged in an upper section of the charging station, absent any criticality, is only considered to be an obvious modification as it has been held by the courts that there would be no invention in shifting the location of a structure of a device to another location if the operation of the device would not thereby be modified, and since a worker in the art could rearrange the air vent in the charger housing to interface with the source of heat, i.e., the charging batteries. ***In re Japikse***, 86 USPQ 70.

12. Claims 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP, as described above, in view of **Sakaue**, as described above.

JP discloses a charging station for a rechargeable battery that can be physically and electrically connected to the battery having charger in a charger housing, wherein an air blower is arranged in the

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charger housing for producing an air current through two air vents, wherein one air vent is interfacing with the battery, and wherein the charger electronics is arranged to transfer heat in the air current, and the air blower is arranged between the air vent on a flow inlet side and the charger electronics. JP describes one integral air vent 11 covered by lid 12 when the charger is removed. JP does not the air vent on the flow inlet side forming a plurality of surface-distributed air inlet points each associated with cooling vents of the battery.

Sakaue discloses in the abstract and in fig.1 a plurality of surface-distributed air inlet points 11 each associated with cooling vents 10 of the battery for elevating blow rate to the battery pack, battery cooling and gas discharge [see also fig.1; the abstract; column 4, lines 25-48]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify JP's apparatus and include a plurality of surface-distributed air inlet points 11 each associated with cooling vents 10 of the battery, as disclosed by Sakaue, in order to elevate blow rate to the battery pack, battery cooling and gas discharge.

As to claim 5, JP does not disclose a chamber having low flow resistance, and being arranged between the air blower and air inlet points. Sakaue discloses a pressure chamber/clearances 17 and 19 causing air to be accumulated and increasing the blow rate of the air blower [see also fig.1; column 4, lines 60-63]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify JP's apparatus and include a pressure chamber, as disclosed by Sakaue, in order to cause air to be accumulated and increase the blow rate of the air blower.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Information Disclosure Statement

14. The reference "Search Report" cited in the IDS filed on 12/13/2004 has not been considered, since there was no such document filed. Appropriate correction is required.

15. The reference "EP-1178557" cited in the IDS filed on 12/13/2004 has been considered, but it is the European application of US 6455186, used as a reference in a previous Office action.

Response to Arguments

16. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection. Applicant amended independent claim 1 to include the air blower arranged between the air vent on a flow inlet side and the charger electronics, which is new issue.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

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19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is (571) 272-2086. If unavailable, contact the Supervisory Patent Examiner Mike Sherry whose telephone number is (571) 272-2084. The Technology Center Fax number is (703) 872-9306.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

February 10, 2005

Pia Tibbits

Primary Patent Examiner

